

REMARKS

Reconsideration is respectfully requested for claims 1-13 and 15-18 which have been rejected under 35 USC §102(b) as being anticipated by newly-cited Glowinski et al. 5,868,674 or under 35 USC §103 as obvious from Glowinski et al. in view of newly-cited Nowinski et al. 6,701,173.

These rejections are respectfully traversed since Glowinski et al. do not show nor suggest the claimed invention, singly or in combination with Nowinski et al.

As defined by claim 1, the invention is a probe, adaptable for detecting magnetic resonance signals emitted from a region of interest. Claim 1 further defines the probe as including at least first and second electrodes positionable on or within an object in proximity to the region of interest, distal ends of the electrodes being spaced apart and disconnected, the electrodes being functional with the conducting medium as a coil for detecting magnetic resonance signals.

Method claim 13 is similar in specifying a method for imaging a region of interest, including the step of (c) detecting magnetic resonance signals from the region of interest with an array of at least two spaced electrodes in proximity to the region of interest.

The Examiner refers to Glowinski et al. as disclosing an MR system in which a catheter is placed in a patient within a proximity of a region of interest, and where the catheter includes a conducting loop with two non-magnetic electrodes spaced apart from each other. The Examiner incorrectly alleges that the conductor is for detecting MR signals, reference being made to column 1, lines 45-61, and column 4, lines 21-51.

This is incorrect. The MR detector in the Glowinski et al. system is the conventional external receiver coil 8, shown in Fig. 1, which servers to receive the MR signal generated by the RF field in the object to be examined. See column 4, lines 30-32.

The conducting loop to which the Examiner refers in column 1, lines 45-61, and column 4, lines 21-51 is a means for generating an additional magnetic field, which as described, comprises a conductor loop with two non-magnetic, spaced apart conductors extending along substantially the length of the catheter. As further described, as a result of the formation of a conductor loop for generating the additional magnetic field, the magnetic fields generated by the MR device are disturbed in a small region extending along the catheter. The entire catheter can be imaged in a MR image, due to the application of the additional magnetic field by the conductor loop in the catheter.

The additional magnetic field generated by the conductor loop is used for imaging a region of interest with and without the additional magnetic field. Note column 1, lines 26-33 which describes the additional magnetic field as switched off during the generation of MRI signals for the reconstruction of a first image, whereas it is switched on during the generation of MRI signals for the reconstruction of the next MR image.

Accordingly, it is clear that Nowinski et al. do not utilize the loop for detecting MR signals, Nowinski et al. use the external detector coil 8 for this, but rather Nowinski et al. utilize the loop for generating an additional magnetic field which can be used in imaging a region of interest. Nowinski et al. do not utilize the conductor loop for detecting magnetic resonance signals emitted from a region of interest as required in independent claims 1 and 13, and all claims depending therefrom. Accordingly, it is respectfully submitted that claims 1 and 13 along with dependent claims 2-12 and 15-18 are neither shown nor suggested by Glowinski et al.

Claims 8, 11, and 18 have been rejected under 35 USC §103(a) as being unpatentable over Glowinski et al. as applied to claims 1-6, 9 and 13-16, as further in view of Nowinski et al. The Examiner alleges that Glowinski et al substantially disclose all claimed features in claims 8, 11, and 18 but do not disclose retractable electrodes. The Examiner refers to Nowinski et al as showing retractable electrodes in Figure 23B. The Examiner further notes that Nowinski et al.'s device is not particularly for MR systems.

This rejection is respectfully traversed for the reasons given above for independent claims 1 and 13 from which claims 8, 11, and 18 depend. As noted above, Glowinski et al. do not disclose a probe as claimed for detecting magnetic resonance signal emitted from a region of interest, but rather disclose a conductive loop for generating additional magnetic fields for use in imaging a region of interest. However, as noted above, the MR signal detector in Glowinski et al. is the detector coil 8 shown in Fig.1.

It is not seen how the Nowinski et al. retractable electrode for use in stereotactic surgery could be combined with the MR system and conductive loop of Nowinski et al., but assuming arguendo that Glowinski et al. could be reconstructed to include the retractable electrode for stereotactic surgery, without defeating the objective of Glowinski et al, which is particularly directed to MR applications, the claimed probe for detecting magnetic resonance signals and the method of imaging a region of interest using an array of at least two spaced electrodes in proximity to the region of interest, as defined by all of the claims, would not be shown or suggested therefrom.

Since claims 1-7, 9, 10, 12, 13 and 15-17 are patentable under 35 USC §102(b) and §103 over Glowinski et al., and since claims 8, 11, and 18 are patentable under 35 USC §103(a) over

Glowinski et al. further in view of Nowinski et al., all as above set forth, it is requested that claims 1-13 and 15-18 be allowed and the case be advanced to issue.

Should the Examiner have any question or comment concerning the present response a telephone call to the undersigned attorney is requested.

Respectfully submitted,
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